

REMARKS

Applicants thank the Examiner for the Office Action of December 27, 2010. This Amendment is in full response thereto. Thus, Applicants respectfully request continued examination and allowance of the application.

Claims 12-21 are pending in this application.

Claim Rejections Under 35 U.S.C. § 103:

Claims 12-21 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Kobayashi (USPN 6,978,726) in view of Chamberland, et al. (EP 0 748 981) or Anderson (USPN 5,439,373).

With respect to claim 12, Applicants respectfully traverse because:

- 1) Kobayashi and Chamberland or Anderson, combined in the manner suggested by the Examiner would not have resulted in combustion of a gaseous or liquid fuel;
- 2) Kobayashi and Chamberland or Anderson, combined in the manner suggested by the Examiner would not have resulted in injection of each of a jet of fuel and at least two jets of oxidant from a furnace wall; and
- 3) even if the teachings of Kobayashi and Chamberland or Anderson would have resulted in the claimed subject matter, one of ordinary skill in the art would not have combined them in the manner suggested by the Examiner because such modification would have destroyed the main object of Kobayashi.

With respect to claims 13-16 and 18-21 in particular, Applicants respectfully assert that the Examiner has not provided a prima facie case.

Applicants have amended the claims to require a jet of fuel and at least two jets of oxidizer injected from a furnace wall, where the first jet of oxidizer, called the primary jet, being injected so as to be in contact with the jet of fuel and to generate a first incomplete combustion, the gases originating from this first combustion still comprising at least a portion of the fuel, and where the second jet of oxidizer being

injected at a distance from the jet of fuel in such a way as to combust with the portion of the fuel present in the gases originating from the first combustion. Thus, each of the jets of fuel and oxidant is injected from a same furnace wall and not from three furnace walls disposed in perpendicular relationship with one another.

First, Applicants repeat the arguments made in their October 14, 2010 Amendment where they argued that the combination of Kobayashi with Chamberland or Anderson would have resulted in the combustion of coal, not a gaseous or liquid fuel as claimed.

Second, Kobayashi and Chamberland or Anderson, combined in the manner suggested by the Examiner would not have resulted in injection of each of a jet of fuel and at least two jets of oxidant from a furnace wall. The Examiner relies upon Kobayashi to teach the jet of fuel and the at least two jets of oxidizer as claimed before amendment. In particular, Kobayashi teaches injection of a jet of fuel and a jet of oxidizer from a burner on a central furnace wall and injection of two additional jets of oxidant each one of which is injected from a separate furnace wall perpendicular to the central furnace wall. Thus, Kobayashi, in the context of the Examiner's suggested combination of references, teaches injection of jets of oxidant not from a same furnace wall but instead from different furnace walls.

Third, even if the teachings of Kobayashi and Chamberland or Anderson would have resulted in the claimed subject matter, one of ordinary skill in the art would not have combined them in the manner suggested by the Examiner because such modification would have destroyed the main object of Kobayashi. If a proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959); See, MPEP 2143.01. The Examiner proposes to substitute the coal fuel of Kobayashi with the gaseous or liquid fuel of Chamberland. Applicants kindly point out that gaseous and liquid fuels do not produce meaningful amounts of ash. The Examiner's substitution would have destroyed the main object of Kobayashi

since Kobayashi is directed to the reduction of ash in combustion of a solid fuel. Applicants ask the Examiner: if gaseous or liquid fuel is substituted for the solid fuel in Kobayashi, what is the point of Kobayashi if the point of the Kobayashi invention is to reduce ash?

With regard to claims 13-16 and 18-21 in particular, Applicants assert that the Examiner has not provided a prima facie case. The Examiner points to no teaching in the prior art disclosing the limitations of these dependent claims. The Examiner does not rely upon case law to address these limitations. The Examiner does not provide a technical rationale underpinning legal reasoning as to why these limitations are obvious. Thus, the Examiner has failed to provide a prima facie case.

In summary, the rejection may be withdrawn.

Double Patenting

Claims 12-21 are provisionally rejected on the ground of non-statutory obviousness-type double patenting as being unpatentable over claims 1-49 of U.S. Patent No. 6,910,879 (Dugue) in view of U.S. 6,978,726 (Kobayashi). Applicants respectfully traverse for the same reasons as they argue in the obviousness rejection. Those arguments, while based upon different combinations of prior art claims and/or teachings, apply with equal weight here. First, if one of ordinary skill in the art were to combine the teachings of Kobayashi with those of Dugue, it would have resulted in combustion of coal, not gaseous or liquid fuel. Second, if one of ordinary skill in the art were to combine the teachings of Kobayashi with those of Dugue, it would have resulted in a jet of fuel and a jet of oxidant injected from a first furnace wall and a second jet of oxidant injected from a second wall that is separate and perpendicular to the first one. Third, one of ordinary skill in the art would not have combined the claims of Dugue with the teachings of Kobayashi because such a one would have considered the ash-lowering technique of Kobayashi irrelevant to the gaseous or liquid fuel combustion of Dugue. Thus, the rejection may be withdrawn.

CONCLUSION

Accordingly, it is believed that the present application now stands in condition for allowance. Early notice to this effect is earnestly solicited. Should the examiner believe a telephone call would expedite the prosecution of the application, he/she is invited to call the undersigned attorney at the number listed below.

Applicants have contemporaneously submitted a Petition for a Three Month Extension of Time along with the associated fee. Otherwise, it is not believed that any fee is due at this time. If that belief is incorrect, please debit deposit account number 01-1375. Also, the Commissioner is authorized to credit any overpayment to deposit account number 01-1375.

Respectfully submitted,

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